

503.33468CC6

Application No. 10/673,221
Applicants: M. OHSUGA, et al.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. - 27. (Cancelled)

28. (Currently Amended) A suction device for an internal combustion engine comprising:

a collector into which air flows through a throttle valve which is located in a throttle housing; and

individual suction pipes for distributing the air to respective cylinders of the internal combustion engine from said collector,

wherein said collector and said individual suction pipes are formed as an assembly body ~~a one-piece suction module~~, and

wherein said throttle valve is comprised of an electronically controlled throttle valve which is driven by a motor which is attached to the throttle housing.

29. (Currently Amended) A suction device for an internal combustion engine according to claim 28, wherein

said motor for driving said electronically controlled throttle valve is located in a housing in said assembly body ~~suction module~~.

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30. (Currently Amended) A suction device for an internal combustion engine comprising:
a throttle valve located in a throttle housing for controlling a flow amount of intake air to a respective cylinder of the internal combustion engine;
individual suction pipes connected to respective cylinders of the internal combustion engine;
a collector for distributing said intake air to said individual suction pipes; and
wherein the individual suction pipes provide an air flow passage formed between an outlet port of said collector and an air intake port of one of said respective cylinders of the internal combustion engine;
wherein said air flow passage has a turned down portion; and
wherein said throttle valve is comprised of an electronically controlled throttle valve which is driven by a motor attached to said throttle housing, whereby the air flow amount of said intake air to said collector is adjusted by said electronically controlled throttle valve.

31. (Currently Amended) A suction device for an internal combustion engine according to claim 30,

wherein said turned down portion of said air flow passage is formed with a bend portion having more than a 90 degree bend,

whereby a flow of said intake air at said turned down portion of said air flow passage is changed to flow in an opposite direction.

32. (Currently Amended) A suction device for an internal combustion engine comprising:

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a throttle valve located in a throttle housing for controlling a flow amount of intake air to respective cylinders of the internal combustion engine;

individual suction pipes connected to said respective cylinders of the internal combustion engine;

a collector for distributing said intake air to said individual suction pipes; and

wherein the individual suction pipes provide an air flow passage formed between an outlet port of said collector and an air intake port of one of said respective cylinders of the internal combustion engine,

wherein said air flow passage has an air flow passage resistance portion which gives a predetermined air flow passage resistance to said air flow in said air flow passage, and

wherein said throttle valve is comprised of an electronically controlled throttle valve which is driven by a motor attached to the throttle housing, whereby a reduction of air flow rate of said intake air caused by said air flow passage resistance of said air flow passage resistance portion is compensated by said electronically controlled throttle valve.

33. (Currently Amended) A suction device for an internal combustion engine according to claim 32,

wherein said air flow passage has a turned down portion, and

wherein said turned down portion of said air flow passage is formed with a bend portion having more than a 90 degree bend,

whereby a flow of said intake air at said turned down portion of said air flow passage is changed to flow in an opposite direction.

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34. (Currently Amended) A suction device for an internal combustion engine comprising:

a throttle valve located in a throttle housing for controlling a flow amount of intake air to respective cylinders of the internal combustion engine;

individual suction pipes connected to said respective cylinders of the internal combustion engine;

a collector for distributing said intake air to said individual suction pipes; and

a motor for operating said throttle valve,

wherein said throttle valve is comprised of an electronically controlled throttle valve which is driven by said motor attached to the throttle housing.

wherein said individual suction pipes and said collector are formed as an assembly body,

wherein said electronically controlled throttle valve, said throttle housing and said motor are formed as a throttle valve means,

wherein said motor is attached to said throttle housing.

wherein said throttle valve means is located on said assembly body, and

wherein said intake air flow amount to said collector is controlled in accordance with a rotation of said motor.

35 (Currently Amended) A suction device for an internal combustion engine according to claim 34,

wherein, ~~on an upper portion of said assembly body,~~ an air cleaner portion and at least one air flow passage, which is formed between an outlet port of said ~~collector~~ air cleaner

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portion and an air intake port of one of said respective cylinders of the internal combustion engine, are provided on an upper portion of said assembly body.

36. (Currently Amended) A suction device for an internal combustion engine according to claim 34,

wherein an air cleaner case for receiving an air cleaner is installed on said assembly body; and

wherein said assembly body and said air cleaner case are connected by said throttle valve means.

Claim 37 (cancelled).

38. (Currently Amended) A suction device for an internal combustion engine comprising:

a collector into which air flows through a throttle valve located in a throttle housing; and

individual suction pipes for distributing the air to respective cylinders of the internal combustion engine from said collector, wherein said collector and said individual suction pipes are formed as an assembly body ~~a one-piece suction module, and~~

a control unit;

an electric motor coupled to said throttle valve; and

wiring coupling said control unit to said electric motor, whereby said throttle valve is electrically controlled by said electric motor attached to said throttle housing in response to electric signals provided to said electric motor through said wiring.

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39. (Currently Amended) A suction device for an internal combustion engine according to claim 38, wherein said motor for electronically controlling said throttle valve is located in a housing in said assembly body ~~suction module~~.

40. ((Currently Amended)) A suction device for an internal combustion engine according to claim 38, wherein an air flow amount of said intake air to said collector is adjusted by said throttle valve in response to electric signals provided to said electric motor from said control unit through said wiring.

Claims 41 and 42 (cancelled).

43. ((Currently Amended) A suction device for internal combustion engine comprising:

a collector into which air flows through a throttle valve which is located in a throttle housing; and

individual suction pipes for distributing the air to a respective cylinder from said collector,

wherein said collector and said individual suction pipes are comprised of an assembly body ~~a suction module~~ of one piece;

wherein there is a passage extending from an inlet of the device to the collector, said throttle valve is in the passage, and the throttle valve is mounted in a throttle portion of the passage,

wherein said throttle valve is comprised of an electronic controlling throttle valve which is driven by a motor, mounted on the throttle housing ~~portion~~; and

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wherein the passage also contains an air filter, and the passage divides into two sub-passages downstream of said air filter, and said throttle valve is formed by two valves which are both driven by the motor.

Claims 44, 45 and 46 (Cancelled).